

NCERT Solutions:

Q1. How did a book become a turning point in Richard Ebright's life?

Ans- A book entitled 'The Travels of Monarch X' changed Richard Ebright's life. It was because it told him how monarch butterflies migrate to central America. It opened the wide world of science to this curious young collector.

Q2. How did his mother help him?

Ans- His mother was a source of great inspiration for him. She always encouraged him and provided constant company to him. In the day she brought friends for him and at night she herself worked with him. She also took him on trips and brought scientific equipment for him. This way she helped him.

Q3. What lesson does Ebright learn when he does not win anything at a science fair?

Ans- Ebright learns an important lesson that science is not just about display. It is about projects and experiments. The real experiments would win him a prize.

Q4. What experiments and projects does he then undertake ?

Ans- He undertook many projects and experiments. He worked on viceroy butterflies to show that they copied monarch butterflies. He studied bright spots on the monarch pupa and discovered a new hormone. Also he found out how cells read their DNA.

Q5. What are the qualities that go into the making of a scientist ?

Ans- There are three essential qualities that make a scientist. The first is a first rate mind. Next is the presence of curiosity. Last but not the least, it is the will to do the best and win.

Short Answer Questions:-

Q1. How did Ebright show the signs that he would do amazing things when he would grow up?

Ans- Ebright always wanted to learn. His mother helped him with that. She always encouraged him to do something worthwhile. By the time he was in second grade, he had collected all twenty-five species of butterflies. These were found around his hometown. His doing so indicated that he would do amazing things.

Q2. Why did Ebright soon lose interest in tagging butterflies ?

Ans- Soon Ebright lost interest in tagging butterflies. Tagging butterflies was tedious. Also there was no feedback. He tried hard to catch the tagged butterflies to learn more about them. But he could not. In all the time only two butterflies that he had tagged caught.

Q3. What made Ebright continue his advanced experiments on monarch pupa ?

Ans- Ebright's continuous success and prizes made him do advanced experiments on the monarch pupa. His project won third place for Zoology. He also got a chance to work during the summer. It was at the entomology lab of the Walter Reed Army Institute of Research.

Q4. Why did viceroy butterflies copy monarchs?

Ans- Viceroy butterflies copied monarchs because monarchs do not taste good to birds. Viceroy butterflies on the other hand taste good to birds. So, the more they look similar to monarchs the less likely they are to become a bird's prey. Thus they protect themselves from birds.

Q5. What are the ingredients in the making of a scientist?

Ans- The author gave examples from Richard Ebright's life to show the ingredients to make a scientist. Start with a first rate mind, add curiosity, and mix in the will to win for the right reasons.

Q6. What all hobbies did Ebright develop in kindergarten?

Ans- As a child Ebright had a driving curiosity. He was interested in learning new things. He was good at studies and earned top grades in the class. He also collected rocks, fossils and coins. He became an eager astronomer too.

Long Answer questions :-

Q1. Write down the character sketch of Richard Ebright.

Ans. Richard Ebright is a great scientist who excited the world with a new theory on how cells work. His dedication and endeavour which led to discoveries is praiseworthy. Even at a young age he had a long string of achievements. Even during his childhood he couldn't play football or baseball but was interested in collecting things. He had a driving curiosity along with a bright mind. He had a great curiosity to learn things. His dedication was always great and whatever he thought, he did. His achievements were too many. He gave a new theory of cells to the scientific world. Ebright is also known to be a photographer and showed scientific exhibits, he can be summed up to have first-rate mind, add curiosity and will to win.

Q2. What role did Ebright's mother play in making him grow as a scientist ?

Ans. Since childhood Ebright was excited by the scientific world. As an only child, Ebright grew up in the town of reading, Pennsylvania. In kindergarten he collected things with determination and this interest was well developed by his mother. His mother encouraged his interest in learning. She took him on trips, bought him telescopes, microscopes, cameras, mounting materials and other equipment. His mother was his only companion. They both spent most of their time together, learning things. It was the constant support of her mother which aroused his interest in collecting butterflies. The book 'The Travels of Monarch X' opened a new world of science for this eager scientist. The book was a great help to study butterfly migrations. So her role is quite great in making a scientist.

Comprehension Questions:-

Read the given passage and answers the questions that follow:

At the age of twenty-two, a former 'scout of the year' excited the scientific world with a new theory on how cells work. Richard H. Ebright and his college room-mate explained the theory in an article in the Proceedings of the National Academy of Science.

Q1. From which lesson the passage has been taken ?

Ans- The Making of a Scientist.

Q2. Who is the author of 'The Making of a scientist'?

Ans- Robert W. Peterson

Q3. Who is Richard H Ebright?

Ans- A Scientist

Q4. In which article his theory is published ?

Ans- Proceeding of the National Academy of Science

Q5. Pick out the word from the passage which means 'to describe'.

Ans- explain

MCQ

Q.1 Name Richard's college room mate.

- a. John b. James
- c. Jack d. Jeff

Q.2 Richard was just in _____ grade when his father died.

- a. First b. Second
- c. Third d. Fourth

Q3. Name Ebright's social science teacher.

- a. Mr Weiherer b. Dr Urquhart
- c. James R Wong d. Taplow

Q4. How many gold spots were there on a Monarch Pupa?

- a. 11 b. 12
- c. 15 d. 10

Q5. In which class was Ebright when he lost at the County Science Fair?

- a. 5 b. 8
- c. 7 d. 4

- Q6. What ground breaking research did Ebright do?**
a. working of body b. working of DNA
c. working of heart d. none of the above
- Q7. Richard H Ebright was an excellent----**
a. debater b. scientist
c. photographer d. all of the above
- Q8. Who did he write to get an idea for a real science experiment ?**
a. his mother
b. his friend
c. Dr Fredrick A. Urquhart
d. none of the above
- Q9. Which butterfly is not eaten by birds ?**
a. viceroy b. monarch
c. dragon fly d. none of the a above
- Q10. What did he collect during his childhood?**
a. coins b. rocks
c. butterflies d. all of the above

<i>Answer Key</i>

- 1 (a). John
- 2 (c). Third
- 3 (a). Mr Weiherer
- 4 (b). 12
- 5 (c). 7
- 6 (b). working of DNA
- 7 (d). all of the above
- 8 (c). Dr Fredrick A. Urquhart
- 9 (b). monarch
- 10 (d). all of the above